

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Original): A method of selective plating on a circuit substrate comprising:
applying a first metal pattern to a surface of the substrate;
applying a second metal pattern to the surface of the substrate, the second metal pattern being electrically isolated from the first metal pattern;
creating a potential voltage difference between the first metal pattern and a metal source comprising a metal of a first type, wherein the voltage potential of the first metal pattern is less than the voltage potential of the metal source; and
plating the first metal pattern with the metal of a first type, the plating the first metal pattern comprising attracting the metal of a first type to the voltage potential of the first metal pattern.

Claim 2 (Original): The selective plating method of claim 1,
wherein creating a potential voltage difference comprises applying a negative charge to the first metal pattern; and
wherein plating the first metal pattern comprises attracting the metal of a first type to the negative charge applied to the first metal pattern.

Claim 3 (Original): The selective plating method of claim 1, wherein creating a potential voltage difference comprises:
applying a positive charge to the metal source; and
electrically coupling the first metal pattern to ground.

Claim 4 (Original): The selective plating method of claim 1 further comprising:
creating a potential voltage difference between the second metal pattern and a metal source comprising a metal of a second type, wherein the voltage potential of the second metal pattern is less than the voltage potential of the first metal pattern; and

plating the second metal pattern with the metal of a second type, the plating the second metal pattern comprising attracting the metal of a second type to the voltage potential of the second metal pattern.

Claim 5 (Original): The selective plating method of claim 1 further comprising:
electrically coupling the first metal pattern to a cathode;
electrically coupling the second metal pattern to an anode; and
electrically coupling the anode to the metal source.

Claim 6 (Original): The selective plating method of claim 1 further comprising creating a potential voltage difference between the first metal pattern and the second metal pattern, wherein the voltage potential of the first metal pattern is less than the voltage potential of the second metal pattern.

Claim 7 (Original): The selective plating method of claim 1 further comprising electrically coupling the first metal pattern to a first via in the substrate,
wherein creating a potential voltage difference comprises one of applying a negative charge to the first metal pattern through the first via or electrically coupling the first metal pattern to ground through the first via.

Claim 8 (Original): The selective plating method of claim 7 further comprising:
electrically coupling the second metal pattern to a second via in the substrate;
applying a positive charge to the second metal pattern through the second via; and
creating a potential voltage difference between the first metal pattern and the second metal pattern, wherein the voltage potential of the first metal pattern is less than the voltage potential of the second metal pattern.

Claim 9 (Original): The selective plating method of claim 1 further comprising:
positioning a heat sink in an opening in the substrate; and
brazing the heat sink to the substrate around the opening to provide a hermetic seal.

Claim 10 (Original): A circuit package comprising:
a base portion having a first surface, a second surface, a first via, a second via, and a plurality of pins;
a first metal pattern disposed on the first surface;
a second metal pattern disposed on the second surface, the second metal pattern being electrically coupled to the first via; and
a third metal pattern disposed on the second surface and arranged to form a gap to electrically isolate the second metal pattern from the third metal pattern, the third metal pattern being electrically coupled to the first metal pattern through the second via.

Claim 11 (Original): The circuit package of claim 10, wherein the base portion comprises a substrate.

Claim 12 (Original): The circuit package of claim 10, wherein the base portion comprises a ceramic substrate.

Claim 13 (Original): The circuit package of claim 10, wherein the base portion comprises one of an alumina substrate and an aluminum nitride (AlN) substrate.

Claim 14 (Original): The circuit package of claim 10 further comprising a nickel-plated pattern electrolytically disposed on the second metal pattern.

Claim 15 (Original): The circuit package of claim 10 further comprising a gold-plated pattern electrolytically disposed on the third metal pattern.

Claim 16 (Original): The circuit package of claim 10 further comprising a single heat sink arranged to dissipate heat from a device built on the circuit package,
wherein the base portion comprises an opening arranged to engage the heat sink, and
wherein the third metal pattern comprises an opening arranged to expose the device to the heat sink.

Claim 17 (Original): The circuit package of claim 16,
wherein the base portion opening comprises a first perimeter edge, and
wherein the heat sink comprises:
a body having the same size and same shape as the base portion opening, and
a flange extending outwardly from the body having a second perimeter edge larger
than the first perimeter edge.

Claim 18 (Original): The circuit package of claim 16, wherein the heat sink is
engaged with the base portion via a braze alloy, the braze alloy providing a hermetic seal
between the opening and the heat sink.

Claim 19 (Original): The circuit package of claim 18, wherein the braze alloy
comprises a copper silver braze alloy.

Claim 20 (Original): The circuit package of claim 16, wherein the heat sink
comprises a copper tungsten alloy heat sink.

Claim 21 (Original): The circuit package of claim 16,
wherein the heat sink comprises an upper surface and a lower surface having more
surface area than the upper surface, and
wherein the upper surface is exposed on the second base portion surface and the lower
surface is exposed on the first base portion surface when the heat sink is engaged with the
base portion.

Claim 22 (Original): A circuit package comprising:
a substrate having a plurality of pins, a top surface, a bottom surface, a first via, a
second via and an opening; and
a single heat sink having a top surface and a bottom surface, the heat sink positioned
within the opening such that the top surface is exposed through the top surface of the
substrate and the bottom surface is exposed through the bottom surface of the substrate.

Claim 23 (Original): The circuit package of claim 22 further comprising:
a first metal pattern disposed on the top surface and electrically coupled to the first via;

a second metal pattern disposed on the bottom surface and electrically coupled to the second via, the second metal pattern being electrically isolated from the first metal pattern.

Claim 24 (Original): The circuit package of claim 23 further comprising:
a first plated pattern electrolytically disposed on the first metal pattern; and
a second plated pattern electrolytically disposed on the second metal pattern.

Claim 25 (Original): The circuit package of claim 24, wherein the first plated pattern comprises a gold plated pattern.

Claim 26 (Original): The circuit package of claim 24, wherein the second plated pattern comprises a nickel plated pattern.

Claim 27 (Original): The circuit package of claim 22,
wherein the opening comprises a first perimeter edge, and
wherein the heat sink comprises:
a body having the same size and same shape as the opening, and
a flange extending outwardly from the body having a second perimeter edge larger than the first perimeter edge.

Claim 28 (Original): The circuit package of claim 22, wherein the heat sink is engaged with the base portion via a braze alloy, the braze alloy providing a hermetic seal between the opening and the heat sink.

Claim 29 (Original): The circuit package of claim 28, wherein the braze alloy comprises a copper silver braze alloy.

Claim 30 (Original): The circuit package of claim 22, wherein the heat sink comprises a copper tungsten alloy heat sink.